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Hepatitis A

$Overview^{(1,2)}$

For a more complete description of hepatitis A (HAV), refer to the following texts:

- Control of Communicable Diseases Manual (CCDM).
- Red Book, Report of the Committee on Infectious Diseases.
- <u>Epidemiology and Prevention of Vaccine-Preventable Diseases</u>, Centers for Disease Control and Prevention.

Case Definition⁽³⁾

Clinical description

An acute illness with

a) Discrete onset of symptoms and b) Jaundice or elevated serum aminotransferase levels.

Laboratory criteria for diagnosis

Immunoglobulin M (IgM) antibody to hepatitis A virus (anti-HAV-IgM) positive.

Case classification

Confirmed: a case that meets the clinical case definition and is laboratory confirmed or a case that meets the clinical case definition and occurs in a person who has an epidemiologic link (epi-link) with a person who has laboratory confirmed hepatitis A (i.e., household or sexual contact with an infected person during the 15-50 days before the onset of symptoms). If possible, get a blood specimen drawn and send the serum (at least 2 ml) to the SPHL for anti-HAV-IgM testing of epi-linked cases.

Probable: a case that meets laboratory criteria for diagnosis, has discrete onset of symptoms compatible with hepatitis in the absence of jaundice, and liver enzymes were not done or are unavailable.

Probable (children 5 years of age or younger): children \leq 5 years of age with HAV infections are often asymptomatic, therefore the case definition for this age group is as follows: A case \leq 5 years that is HAV-IgM (+), and is epi-linked to a "confirmed" or "probable" HAV case, and the HAV-IgM (+) specimen on the child was collected 15 – 50 days after exposure to the epi-linked case.

Information Needed for Investigation

Verify the diagnosis. IgM anti-HAV (if done) must be positive. (See Epi-link above.) **Establish the extent of illness**. Determine if household or other close contacts are, or have been, ill by contacting the health care provider, patient or family member.

Contact the District Communicable Disease Coordinator if an outbreak is suspected, or if cases are in high-risk settings or jobs such as food handler, child care, or health care.

Contact the Bureau of Child Care if a case is associated with a child care facility.

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Case/Contact Follow Up And Control Measures

- Determine the source of infection to prevent other cases.
- Going back 2 weeks from onset of symptoms, identify all household, sexual (heterosexual and homosexual), drug use, child care, hospital or nursing home, and other intimate contacts. Ask about other close friends, playmates, persons with whom the case shared food or beverages; ask if the case prepared food for anyone outside the household; ask if the case lived or spent significant time in another household. If the case is a child, interview carefully regarding child care remember, not all children go to one specific care center. Children may be cared for by a wide variety of family members, friends, and neighbors.
- Passive immunization with immune globulin (IG) should be given as soon as possible after exposure. IG is only effective if given within 14 days of the exposure.
- For cases in high-risk occupations (i.e.: food handlers, personal care givers) Exclusion policy: Fourteen (14) days after onset of symptoms or 7 days after onset of jaundice.
- Routine serologic screening is <u>not</u> recommended for hepatitis A contacts without symptoms, because commercially available assays for Igm anti-HAV are usually positive within 1 week of onset of illness and become negative after 6 months. (13) Testing an asymptomatic person for hepatitis A and getting a negative result can lead to a false sense of security. The best approach is to counsel the "contact" on good hygiene (stressing the importance of handwashing) and on the signs and symptoms of HAV, which are to be promptly reported to the health department and his/her physician.

NOTE: For contacts in high-risk occupations (i.e.: food handlers, personal care givers) screening for elevated liver enzymes may be warranted. Obtain approval from SCDCVPH to submit blood for liver enzyme testing when:

If a person is suspected of being infected with hepatitis A (e.g. having a history of contact with a known case), but the HAV-IgM is negative. Exclude the person from work until the liver enzymes results are received. If test results are elevated, continue to exclude from work and retest for HAV-IgM in seven days. (Liver enzymes rise before IgM is detectable.)

Procedure for submitting specimens for liver enzymes testing:

- After obtaining approval from SCDCVPH, use a red top tube to draw 5 ml of whole blood (when sending serum, 2 ml are needed). Use the TB lab form and write in CD Control. Send directly to the MRC Tuberculosis Unit, Mt. Vernon. All approved testing is paid for by SCDCVPH.
- If sending a specimen that requires both HAV-IgM and liver enzymes, include ALT and AST on the request form for HAV-IgM testing and send 5 ml of blood to the SPHL. The SPHL will split the specimen and send part to Mt. Vernon.
- Report results will be returned to SCDCVPH and the submitter.

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Control Measures

See the Hepatitis A section of the <u>Control of Communicable Disease Manual</u> (CCDM), "Control of patient, contacts and the immediate environment".

See the Hepatitis A section of the <u>Red Book</u>.

- The primary methods used to prevent and control hepatitis A are good hygienic measures, passive immunization with IG, and the use of hepatitis A vaccines for long-term protection.
- If hepatitis A vaccine is to be given with IG, it may be administered simultaneously but at a separate anatomic injection site.
- Persons who have received one dose of hepatitis A vaccine at least 1 month before a
 hepatitis A exposure do not need IG. (1,12)
- Hepatitis A vaccine is recommended for international travelers, men who have sex with men, drug users, persons with occupational risk, and persons with chronic liver disease, including hepatitis C.

<u>NOTE</u>: Humans are the only natural host for hepatitis A, widespread vaccination of appropriate susceptible populations can substantially lower disease incidence, eliminate virus transmission, and ultimately eradicate HAV infection. Currently, state funding for hepatitis A vaccine is only available for Vaccine For Children (VFC) eligible persons. Hepatitis A vaccine <u>should</u> be offered to <u>all</u> VFC eligible persons.

Vaccination Schedule and Use

Recommended Doses of Havrix® Hepatitis A Vaccine (12)

Group	Age	Dose (U)	Volume	No. Doses	Schedule*
Children &	2-18 yrs	720	0.5 ml	2	0, 6-12
Adolescents					
Adults	>18 yrs	1,440	1.0 ml	2	0, 6-12

^{*} Months: 0 months represents timing of the intial dose; subsequent number(s) represent months after the initial dose.

Recommended Doses of VAQTA® Hepatitis A Vaccine (12)

Group	Age	Dose (U)	Volume	No. Doses	Schedule*
Children &	2-18 yrs	25	0.5 ml	2	0, 6-18
Adolescents					
Adults	>18 yrs	50	1.0 ml	2	0, 6-12

^{*} Months: 0 months represents timing of the intial dose; subsequent number(s) represent months after the initial dose.

Limited data indicate that vaccines from different manufactures <u>are</u> interchangeable. Completion of the series with the same product is preferable. However, if the originally used product is not available or not known, vaccination with either product is acceptable. *Neither Havrix® or VAQTA® are currently licensed for children < 2 years of age.*

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For both vaccines, the booster dose given should be based on the person's age at the time of the booster dose, not the age when the first dose was given.

The minimum interval between the first and booster doses of HAV vaccine is six calendar months. If the interval between the first and booster doses of HAV vaccine is longer than the recommended interval, it is not necessary to repeat the first dose.

Twinrix® is an approved combination hepatitis A and hepatitis B vaccine. The vaccine is administered in a 3 dose series at 0, 1, and 6-12 months. Appropriate spacing of the doses must be maintained to assure long-term protection from both vaccines. The first and third doses of Twinrix® should be separated by at least 6 months. The first and second doses should be separated by at least 4 weeks, and the second and third doses should be separated by at least 8 weeks, as in the hepatitis B schedule. It is not necessary to restart the series or add doses if the interval between doses is longer than the recommended interval. *Twinrix® is approved for persons aged 18 years and older*.

Schedule for Using a Combination of Twinrix® and Single-Antigen Hepatitis A Vaccine

- Following one dose of Twinrix®: the hepatitis A schedule may be completed with one dose of adult HAV vaccine administered > 6 months after the Twinrix® dose.
- Following two doses of Twinrix®: the hepatitis A schedule may be completed with one dose of adult HAV vaccine administered ≥ 2 months after the second dose of Twinrix® and > 6 months after the first dose of Twinrix®.
- Following one dose of adult HAV vaccine, the hepatitis A schedule may be completed with one dose of Twinrix®. The Twinrix® dose should be administered ≥ 6 months after the dose of single-antigen HAV vaccine.

Since the hepatitis B component Twinrix® is equivalent to a standard dose of hepatitis B vaccine (HBV), the schedule is the same whether Twinrix® or single-antigen HBV vaccine is used.

Contraindications and Precautions to Vaccination

Hepatitis A vaccine should not be administered to persons with a history of a *serious* allergic reaction to a prior dose of hepatitis A vaccine, hypersensitivity to alum or, in the case of Havrix®, to the preservative 2-phenoxyethanol. Vaccination of persons with *moderate or severe acute illnesses* should be deferred until the patient has improved.

The safety of hepatitis A vaccination during pregnancy has not been determined.

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Post-Exposure Management with Immune Globulin

- The margin of safety of IG is relatively high. There is no evidence that the human immunodeficiency virus (HIV), the hepatitis B virus, or other viruses have ever been transmitted by IG commercially available in the United States. (5)
- Persons who have received one dose of hepatitis A vaccine at least 1 month before a hepatitis A exposure do not need IG. (1,12)
- IG should be given to exposed contacts that have not previously received hepatitis A vaccine as soon as possible, but not more than 2 weeks after the exposure. (12)
- **Re-exposure or continuous contact.** If re-exposure or continuous exposure occurs, IG should be readministered 3 months after the previous dose. (9,10) Hepatitis A vaccine and IG should be strongly considered if exposure is expected to continue or recur.
- IG is not contraindicated for pregnant or lactating women. (5)
- Pregnant women and infants (under 12 months of age) should receive IG that **does not** contain thimerosal. (2)
- IG should be administered in the same dose and schedule to both immunocompromised and immunocompetent persons. (6) For more specific information regarding contraindications and the administration of IG in the prevention and control of hepatitis A, refer to the materials included in the IG package insert.
- IG dosage is 0.01 ml/lb (0.02 ml/kg) of body weight.

```
Example: 30 \text{ lb child} = 0.3 \text{ ml}

38 \text{ lb child} = 0.4 \text{ ml}

123 \text{ lb adult} = 1.2 \text{ ml}

245 \text{ lb adult} = 2.5 \text{ ml}

295 \text{ lb adult} = 3.0 \text{ ml}
```

- No more than 5 ml should be given in one site for an adult or large child. No more than 3 ml should be given in one site for small children.
- **IG can interfere with the response of live injected vaccines** (e.g., measles, mumps, rubella, and varicella vaccines). Thus the administration of live vaccines should be delayed for at least 3 months after administration of IG. If IG is given within 2 weeks of administration of live vaccine(s), the person should be revaccinated with the live vaccine(s), but not sooner than 3 months after administration of IG. (6)
- IG for post-exposure prophylaxis can be ordered from the Section of Vaccine Prevention and TB Elimination (phone# 573 751-6133).

Child Care Centers

Refer to the hepatitis A section of the Red Book.

Child care operators and staff should be aware of the potential danger of an outbreak of
hepatitis A in their centers and should adopt preventive measures. Prevention should focus on
good hygiene at the center, with emphasis on handwashing by employees and by children of
all ages. Appropriate facilities and precautions should be used in diaper-changing areas where

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feces may be handled directly. Clothing should be worn over diapers to reduce fecal contamination of the environment. (7)

- Staff should wash their hands immediately after changing diapers or training pants or assisting
 toddlers in using the toilet. Disposable diapers should be thrown away promptly in a covered,
 plastic-lined container and the diaper-changing table washed and disinfected after use.
- Depending on conditions, HAV can be stable in the environment for months. (12)
- Request the Bureau of Child Care to have an Environmental Public Health Specialist do an inspection of the center.
- Affected child care facilities should <u>not</u> close down, since this would permit infected children to return to their homes and neighborhoods without their illness being recognized. Closing one center may result in spread to other centers. Cooperation between public health agencies and child care operators is essential for successful outbreak control. (4)
- The hepatitis A fact sheet and forms relating to child care centers at the end of this section may be duplicated and used.

Food Service Establishments

When a case occurs in an employee of a food service facility, the following control measures should be taken:

- Inspection of the restaurant by public health officials, focusing on handwashing and good sanitation of facilities. Deficiencies and education of employees should be discussed in detail with the management. (See "Information Needed When HAV is Confirmed/Suspected in an Employee of a Food Service Facility", "Food Establishment Inspection Related to Food Handler with Hepatitis A", "Precautions to Prevent Spread of Hepatitis A" located at the end of this manual section.)
- 2. Exclude the infected employee from work for 7 days after onset of jaundice. In the absence of jaundice, exclude the infected employee from work for 14 days after onset of symptoms.
- 3. Obtain specific information about the employee's symptoms including whether diarrhea was present and if so, when?
- 4. Obtain the patient's exact work duties and schedule during the infectious period.
- 5. Destroy all remaining high risk foods prepared by the infected employee.
- 6. Other employees who are symptomatic should be excluded from all food handling duties until serologically screened. Serologic screening may also be recommended in other circumstances after consultation with the District Communicable Disease Coordinator.
- 7. Administer IG to all employees of the establishment regardless of duties. If an employee refuses IG, exclude him/her from work until 50 days after the last possible exposure to hepatitis A in the establishment. If an employee has received one dose of hepatitis A vaccine and it has been ≥ one month from the injection, IG administration is <u>not</u> required. The employee should continue the hepatitis A vaccine series on schedule.
- 8. Since common source transmission of hepatitis A (HAV) is possible but uncommon, IG is usually not recommended for patrons. However, when a case of hepatitis A occurs in a food service worker who worked during the infectious period, a determination should be made whether there is a sufficient risk of HAV transmission to the public to warrant patron notification. This determination must be made in consultation with the District Communicable Disease Coordinator and the SCDCVPH. The Department of Health and

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Senior Services recommends IG administration to patrons when **all three** of the following conditions are met⁽⁵⁾:

- a. The infected person, without the use of gloves or utensils, is directly involved in handling foods that will not be cooked before they are eaten⁽⁵⁾. Examples of high-risk foods include but are not limited to:
 - Lettuce, tomatoes, and garnishes on sandwiches or for salads.
 - Salads, vegetables, and fruits at salad bars.
 - Sliced cooked foods, such as ham, which can be contaminated during slicing.
 - Cold cuts.
 - Cake/donut frostings.
 - Ice that is scooped by hand or a contaminated scoop/glass.
 - Condiments for drinks (such as cherries, olives, lemon/lime twists).

b. The hygienic practices of the infected person are deficient or the infected person has had diarrhea while working⁽⁸⁾.

- Deficient hygienic practices mean obviously dirty hands and fingernails and/or the inability to wash hands appropriately in the work place due to lack of soap, paper towels, water and/or a sink.
- Deficient hygienic practices may also be judged subjectively by evaluating:
 - Personal cleanliness of the food handler.
 - Personal history of handwashing after a bowel movement and/or before handling/serving food.
 - Cleanliness of the food establishment and the case's home.
 - Observed hygienic and food handling habits/practices of workers at the time of investigation.
 - Critical deficiencies of the facility that would facilitate transmission of the virus to patrons.
- c. When patrons can be identified and treated within 14 days of exposure⁽⁵⁾.
- Situations where repeated exposures may have occurred, such as institutional cafeterias, may warrant stronger consideration of IG use.
- The hepatitis A fact sheet and forms relating to food establishments at the end of this section may be duplicated and used.

School and preschools

When epidemiologic study clearly shows the existence of a classroom-centered outbreak, the Missouri Department of Health and Senior Services recommends administering IG to the entire classroom.

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Hospitals and nursing homes

When a health care worker is infected with HAV, the worker's activities must be carefully scrutinized to determine possible exposure of patients (e.g., mouth care, feeding, tube feeding) or co-workers.

Offices and factories

Routine IG administration is not indicated under usual office or factory conditions. ⁽⁵⁾ Inquire about risk factors which may have occurred in this setting (e.g., carrying in food).

Laboratory Procedures

Serology

- Both IgG and IgM class antibodies are present in the serum at the onset of symptoms.⁽¹¹⁾ The presence of IgM anti-HAV indicates recent infection and determines if public health action is warranted. This antibody is present at the onset of illness and may remain detectable for three to six months in most cases and up to 12 months after infection in up to 25% of cases.⁽¹¹⁾ IgG anti-HAV persists and is associated with lifelong immunity.⁽¹³⁾
- A positive total anti-HAV will not differentiate acute from past infection, but may be useful for identifying immunity as a result of prior infection.
- In acute viral hepatitis, the ALT and AST levels begin to rise at time symptoms occur and peak during the icteric phase. (2)

The Missouri State Public Health Laboratory performs the IgM anti-HAV test. For confirmation of a suspected case, use the Missouri State Public Health Laboratory virus serology kit.

NOTE: Extreme heat or cold can hemolyze whole blood, making it unsuitable for testing.

Reporting Requirements

Hepatitis A is a Category I disease and shall be reported to the local health authority or to the Missouri Department of Health and Senior Services (DHSS) within 24 hours of first knowledge or suspicion by telephone, facsimile or other rapid communication.

- 1. For all cases, complete a "Disease Case Report" (CD-1).
- 2. For confirmed and probable cases, complete the "Viral Hepatitis Case Report"
- 3. If (IG) prophylaxis is necessary, complete the "Record of Hepatitis Prophylaxis" (CD-24).
- 4. Entry of the complete CD-1 into the MOHSIS database negates the need for the paper CD-1 to be forwarded to the District Health Office.
- 5. Send the completed secondary investigation form(s) to the District Health Office.
- 6. All outbreaks or "suspected" outbreaks must be reported as soon as possible (by phone, fax or e-mail) to the District Communicable Disease Coordinator. This can be accomplished by completing the Missouri Outbreak Surveillance Report (CD-51).
- 7. Within 90 days from the conclusion of an outbreak, submit the final outbreak report to the District Communicable Disease Coordinator.

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References

- Chin, James, ed. "Viral Hepatitis A (Infectious hepatitis, Epidemic hepatitis, Epidemic jaundice, Catarrhal jaundice, Type A hepatitis, HA)." <u>Control of Communicable Diseases Manual</u>. 17th ed. Washington, DC: American Public Health Association, 2000: 238-243.
- American Academy of Pediatrics. "Hepatitis A." In: Pickering, LK, ed. <u>2000 Red Book</u>: <u>Report of the Committee on Infectious Diseases</u>. 25th ed. Elk Grove Village, IL. 2000: 280-288.
- 3. Centers for Disease Control and Prevention. <u>Case Definitions for Infectious Conditions</u> <u>Under Public Health Surveillance.</u> MMWR 1997:46 (No. RR-10): 18.
- 4. Townsend, Timothy R. "Hepatitis A." <u>Infection Control in the Child Care Center and Preschool</u>. 4th ed. Ed. Leigh G. Donowitz. Baltimore: Williams, 1999: 156-158.
- 5. ACIP, Protection against viral hepatitis. MMWR 1990:39 (No. RR-2).
- ACIP, Recommendations of the Advisory Committee on Immunization Practices: Use of Vaccines and Immune Globulins in persons altered Immunocompetence. MMWR 1993: 42 (RR-4).
- 7. Van R, Morrow AL, Reves RR, Pickering LK. Environmental contamination in child day-care centers. Am J Epidemiol 1991: 133: 460-470.
- 8. Wisconsin Division of Health. Hepatitis A handbook for public health personnel. Wisconsin Department of Health and Social Services. 1992: POH 4554.
- 9. Ockner RK. Acute viral hepatitis. In: Wyngaarden JB, Smith LH. Cecil Textbook of Medicine. 18th ed. Philadelphia: WB Saunders Co, 1988: 819-826.
- 10. Feinstone SM, Gust ID. Modern concepts of hepatitis A. Koretz RL. Prognosis of acute viral hepatitis. In: Gitnick G. Modern Concepts of acute and chronic hepatitis. New York: Plenum, 1989: 67-86, 173-185.
- Gust, Ian D., Feinstone, Stephen M. "Hepatitis A Virus." <u>Principles and Practice of Infectious Diseases</u>. 5th ed. Eds. Gerald L. Mandell, John E. Bennett, and Raphael Dolin. New York: Churchill Livingstone, 2000: 1920-1940.
- 12. W. Atkinson, C. Wolfe, (Eds.) "Hepatitis A" <u>Epidemiology and Prevention of Vaccine-Preventable Diseases</u> 7th ed. Centers for Disease Control and Prevention 2002. 156 168
- Margolis, Harold S., Alter, Miriam J., Hadler, Stephen C. "Viral Hepatitis." <u>Viral Infections of Humans Epidemiology and Control</u>. 4th ed. Eds. Alfred S. Evans and Richard A. Kaslow. New York: Plenum, 1998: 363-375.

Web Sites

- 1. Centers for Disease Control and Prevention Viral Hepatitis A http://www.cdc.gov/ncidod/diseases/hepatitis/a/index.htm (7/03)
- Missouri Department of Health and Senior Services Hepatitis A http://www.health.state.mo.us/GLRequest/ID/HepA.html (7/03)
- 3. Karolinska Institutet Alphabetic List of Specific Diseases/Disorders http://www.mic.ki.se/Diseases/alphalist.html (7/03)
- 4. Richard Gilroy. "Hepatitis A." eMedicine Journal, Feb 11 2002, V 3, N 2 http://www.emedicine.com/MED/topic991.htm (7/03)

Hepatitis A

Fact Sheet

What is hepatitis A?

Hepatitis A (formerly known as infectious hepatitis) is a liver disease caused by the hepatitis A virus. The disease is fairly common in Missouri; during the 5-year period (1997-2001), there was an average of 635 cases each year.

Unlike hepatitis B and hepatitis C, hepatitis A causes no long-term liver damage and usually does not cause death. Having had the disease produces lifelong immunity from future hepatitis A infection.

Who gets hepatitis A?

Anyone can get hepatitis A, but it generally occurs more frequently in children. Children may have mild infections or no symptoms at all and go unrecognized as a case of hepatitis A. Another group of special concern is young adults from 15 to 30 years of age. People in this age group tend to be more socially active, participating in activities that may involve sharing food, beverages, or other substances. Also, they are frequently employed in occupations such as food preparation and service, which could provide the opportunity to expose large numbers of other people.

How is the virus spread?

The hepatitis A virus is spread from the stool (feces) of persons with hepatitis A. The virus is often carried by minute particles on an infected person's hands. Hepatitis A can be spread by direct contact, or by placing something in the mouth that has been contaminated by a person infected with hepatitis A. Very few virus particles are required for transmission of the infection; therefore the hands may not be noticeably soiled with stool. Proper **handwashing** after using the toilet is very important in preventing the spread of hepatitis A.

In some cases, it can be spread by drinking contaminated water. An increasing number of hepatitis A cases have been reported in drug users, and it is suspected that contaminated drugs or close personal contact is the cause. The sharing of items between users of both injectable and inhalable drugs provides an ideal method for the transmission of the virus.

Hepatitis A is not spread by sneezing or coughing.

What are the symptoms of hepatitis A?

The symptoms of hepatitis A may include any or all of the following: fatigue, poor appetite, fever, vomiting, dark urine, and jaundice (a yellowing of the skin and/or whites of the eyes). Very few deaths are caused by hepatitis A. Most people recover in a few weeks without any complications. Infants and young children tend to have no symptoms or very mild symptoms and are less likely to develop jaundice than are older children and adults.

How soon do symptoms appear?

Symptoms appear 15 to 50 days after exposure, but generally 25 to 30 days.

How is it diagnosed?

Since there are several types of viral hepatitis, a blood test is needed to find out which type of hepatitis is present.

For how long is an infected person able to spread the virus?

The contagious period begins about 14 days before the symptoms appear and ends about 7 days after jaundice appears. If jaundice is not present, the person should be considered infectious for the 14 days before symptoms started until 14 days after the start of symptoms. Infected persons with or without symptoms can spread the disease to others.

What is the treatment for hepatitis A?

Only supportive treatment is available for hepatitis A. Generally, rest and good nutrition are all that is needed. Drugs and alcohol should be avoided.

How can the spread of hepatitis A be prevented?

The best way to prevent spread is careful handwashing after using the toilet or changing diapers. Infected people should not prepare or handle food for others during the contagious period.

Household members, sex partners, drug partners or others in close contact with an infected person should call a doctor or the health department to get a shot of immune globulin (IG). IG must be given within 14 days of exposure to be effective. IG without thimerosal is available for use with infants, pregnant women, and those with known allergies to the preservative.

There is no evidence that the human immunodeficiency virus (HIV), the hepatitis B virus, or other viruses have ever been transmitted by IG commercially available in the United States.

For long-term protection, hepatitis A vaccine is recommended and may be given simultaneously when administering IG at a separate anatomic injection site.

Missouri Department of Health and Senior Services Section for Communicable Disease Prevention Phone: (866) 628-9891 (573) 751-6113

7/03

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES PUBLIC HEALTH SERVICE

VIRAL HEPATITIS CASE REPORT

CDC
Centers for Disease Contro
and Prevention
Hepatitis Branch, (G37)

Atlanta, Georgia 30333 The following questions should be asked for every case of viral hepatitis Prefix: (Mr. Mrs. Miss Ms. etc) ____ __ Last: __ _ First: __ Preferred Name (nickname): Maiden: Address: Street: Phone: (Zip Code: __ City: _ ---- Only data from lower portion of form will be transmitted to CDC ------State: Date of Public Health Report__ __ / __ __ / __ __ _ County: Was this record submitted to CDC through the NETSS system? Yes No 🗌 If yes, please enter NETSS ID NO. If no, please enter **STATE CASE NO.** DEMOGRAPHIC INFORMATION RACE (check all that apply): ETHNICITY: Amer Indian or Alaska Native Black or African American White Hispanic Asian Native Hawaiian or Pacific Islander Other Race, specify: _ Non-hispanic Female Unk PLACE OF BIRTH: Пusa Other: SEX: Male Other/Unknown DATE OF BIRTH: MM/DD/YYYY(00 = <1 yr , 99 = Unk)AGE: _ (years) CLINICAL & DIAGNOSTIC DATA **REASON FOR TESTING:** (Check all that apply) Symptoms of acute hepatitis Evaluation of elevated liver enzymes Screening of asymptomatic patient with reported risk factors Blood / organ donor screening Screening of asymptomatic patient with no risk factors (e.g., patient requested) Follow-up testing for previous marker of viral hepatitis Prenatal screening Unknown Other: specify: DIAGNOSTIC TESTS: CHECK ALL THAT APPLY CLINICAL DATA: Neg Unk MM/DD/YYYY Diagnosis date: • Total antibody to hepatitis A virus [total anti-HAV] Yes No Unk IgM antibody to hepatitis A virus [IgM anti-HAV] Is patient symptomatic?..... Hepatitis B surface antigen [HBsAg]...... if yes, onset date: $\[\] \] / \[\]$ Total antibody to hepatitis B core antigen [total anti-HBc] Was the patient IgM antibody to hepatitis B core antigen [IgM anti-HBc]........ П • Jaundiced? Hospitalized for hepatitis?..... Antibody to hepatitis C virus [anti-HCV] Was the patient pregnant ? - anti-HCV signal to cut-off ratio _____ due date: MM/DD/YYYY • Supplemental anti-HCV assay [e.g., RIBA] Did the patient die from hepatitis? HCV RNA [e.g., PCR] • Date of death: M M / DD / Y Y YAntibody to hepatitis D virus [anti-HDV]..... П Antibody to hepatitis E virus [anti-HEV] LIVER ENZYME LEVELS AT TIME OF DIAGNOSIS • If this case has a diagnosis of hepatitis A that has not been No Unk serologically confirmed, is there an epidemiologic link between ALT [SGPT] Result Upper limit normal this patient and a laboratory-confirmed hepatitis A case? AST [SGOT] Result _____ Upper limit normal_ • Date of ALT result MM/DD /Y Y YY Date of AST result <u>MM/DD/YYYY</u> DIAGNOSIS: (Check all that apply) Acute hepatitis A Chronic HBV infection Perinatal HBV infection Acute hepatitis B Hepatitis Delta (co- or super-infection) Acute hepatitis C HCV infection (chronic or resolved) Acute hepatitis E Acute non-ABCD hepatitis

NETSS ID NO.	
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STATE CASE NO.

During the 2-6 weeks prior to onset of symptoms-	X7 XI XI.I
Was the patient a contact of a person with confirmed or suspected	Yes No Unk
hepatitis A virus infection?	
If yes, was the contact (check one)	
• household member (non-sexual)	
• sex partner	
child cared for by this patient	
babysitter of this patient	
• playmate	
• other	
Was the patient	
• a child or employee in a day care center, nursery, or preschool ?	Ц Ц Ц
a household contact of a child or employee in a	
day care center, nursery or preschool ?	······
If yes for either of these, was there an identified hepatitis A case	
in the child care facility?	
Please ask both of the following questions regardless of the patient's	s gender.
In the 2-6 weeks before symptom onset how many	0 1 2-5 >5 Unk
• male sex partners did the patient have?	
• female sex partners did the patient have?	
In the 2- 6 weeks before symptom onset	Yes No Unk
Did the patient inject drugs not prescribed by a doctor?	
Did the patient use street drugs but not inject?	
Did the patient travel outside of the U.S.A. or Canada	······
• If yes, where? 1)2)	
(Country) 3)	
In the 3 months prior to symptom onset	- 1-0
Did anyone in the patient's household travel outside of the U.S. A. or Cana If yes, where? 1) 2)	
	-
(Country) 3) Is the patient suspected as being part of a common-source outbreak?	
If yes, was the outbreak	
Foodborne- associated with an infected food handler	
Foodborne - NOT associated with an infected food handler	
• specify food item	
Waterborne	
Source not identified	
Was the patient employed as a food handler during the TWO WEEKS	
prior to onset of symptoms or while ill?	
VACCINATION HISTORY	
Yes No Unk	
Has the patient ever received the hepatitis A vaccine?	
• If yes, how many doses?	
• In what year was the last dose received?	
Has the patient ever received immune globulin?	
• If yes, when was the last dose received? / / mo yr	
l l	

	STATE CASE NO.
Patient History- Acute Hepatitis B	NETSS ID NO.
During the 6 weeks- 6 months prior to onset of symptoms was the patient a contact of a person with confirmed or suspected acute or chronic hepatitis B virus infection? Yes No Unk If yes, type of contact • Sexual	Ask both of the following questions regardless of the patient's gender. In the 6 months before symptom onset how many 0 1 2-5 >5 Unk • male sex partners did the patient have?
During the 6 weeks- 6 months prior to onset of symptoms Did the patient- undergo hemodialysis?	During the 6 weeks- 6 months prior to onset of symptoms • Did the patient have any part of their body pierced (other than ear)? where was the piercing performed? (select all that apply) commercial correctional other parlor / shop facility • Did the patient have dental work or oral surgery?
having direct contact with human blood?	During his/her lifetime, was the patient <i>EVER</i> • incarcerated for longer than 6 months?
If yes, how many shots?	Yes No Unk Was the patient tested for antibody to HBsAg (anti-HBs) within 1-2 months after the last dose? • If yes, was the serum anti-HBs ≥ 10mIU/ml?

'positive' or 'reactive')

Perinatal Hepatitis I	B Virus	Infection
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NETSS ID NO.						
STATE CASE NO)					

RACE OF MOTHER: Amer Ind or Alaska Native Black or African American Native Hawaiian or Pacific Islander	☐ White ☐ Other Race, specif	Unknown	Hispanic
	Yes No Unk		Other/Unknown
Was Mother born outside of United States?		If yes, what co	ountry?
Was the Mother confirmed HBsAg positive prior to or at time of delivery	/ ? □ □ □		
If no, was the mother confirmed HBsAg positive after delivery?			
Date of HBsAg positive test result	<u>M M / D D / Y</u>	<u> </u>	
How many doses of hepatitis B vaccine did the child receive? • When? • Dose 1- M M / D D / Y Y Y Y	0 1 2	3	
• Dose 2- M M / D D / Y Y Y Y			
• Dose 3- M M / D D / Y Y Y Y	Yes No Unk		
Did the child receive hepatitis B immune globulin (HBIG)?	📙 🔲		
If yes, on what date did the child receive HBIG?	<u>M M / D D / Y</u>	YYY	

Patient History- Acute Hepatitis C	NETSS ID NO. STATE CASE NO.
During the 2 weeks- 6 months prior to onset of symptoms was the patient a contact of a person with confirmed or suspected acute or chronic hepatitis C virus infection? Yes No Unk If yes, type of contact Sexual Household [Non-sexual]	Ask both of the following questions regardless of the patient's gender. In the 6 months before symptom onset how many 0 1 2-5 >5 Unk male sex partners did the patient have?
During the 2 weeks- 6 months prior to onset of symptoms Did the patient- undergo hemodialysis?	During the 2 weeks- 6 months prior to onset of symptoms • Did the patient have any part of their body pierced (other than ear)? where was the piercing performed? (select all that apply) commercial correctional other parlor / shop facility • Did the patient have dental work or oral surgery?
having direct contact with human blood?	During his/her lifetime, was the patient <i>EVER</i> • incarcerated for longer than 6 months?

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Patient History-	· Hebatītīs	C Virus	Intection	(chronic or	resolved

NETSS ID NO.					
STATE CASE NO.					

ı	of lif	fetime	risk	factors	for HCV	infection.	Routine	collection	of risk factor	
X	ever	collec	tion	of risk	factor inf	formation for	or such r	ersons ma	v provide usef	'nΙ

The following questions are provided as a guide for the investigation of	lifetime	risk	factors	s for HCV infection. Routine collection of risk factor	
information for persons who test HCV positive is not required. Howeve	r, collec	ction	of risk	k factor information for such persons may provide useful	
information for the development and evaluation of programs to identify	and cou	ınsel	HCV-	-infected persons.	
	Yes 1	No	Unk	Yes No	Unk
Did the patient receive a blood transfusion prior to 1992?				Was the patient ever employed in a medical or	
Did the patient receive an organ transplant prior to 1992?	- □ i			dental field involving direct contact with human	
• Did the patient receive clotting factor concentrates produced prior to 1987?				blood?	
Was the patient ever on long-term hemodialysis?					
Has the patient ever injected drugs not prescribed by a doctor					
even if only once or a few times?					
Was the patient ever incarcerated?					
• Was the patient ever treated for a sexually transmitted disease?					
• Was the patient ever a contact of a person who had hepatitis ?					
If yes, type of contact					
Sexual					
Household [Non-sexual]					
• Other:					



MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES SECTION OF COMMUNICABLE DISEASE CONTROL AND VETERINARY PUBLIC HEALTH IMPORTANT INFORMATION ABOUT HEPATITIS A AND IMMUNE GLOBULIN

The second secon								
NAME			AGE					
ADDRESS		TELEPHONE NUMBER	R					
			_					
INFORMATION ABOUT HEPATITIS A			_					
Hepatitis A is a disease caused by a virus. It is the most infectious form of viral hepatitis.								
Hepatitis A virus is passed in the stool of infected persons. Direct contact with the infected person's stool or contaminated hands, or eating from dishes or eating utensils handled by the infected person can cause infection. Food or drinking water contaminated with the virus can spread the disease.								
Hepatitis means inflammation (swelling and tenderness) of the liver. The most common symptoms joint aches, nausea, vomiting, loss of appetite, abdominal pain, and sometimes diarrhea.	of viral hepatitis a	re tiredness, fever, m	uscle or					
Some patients develop dark urine and light colored stools, followed by jaundice in which the skin a people may lose 5 to 10 pounds during the illness. The illness generally lasts about 1-2 weeks.	and whites of the ey	ves appear yellow. So	ome					
Many people infected with hepatitis A do not develop any symptoms, or may have only a mild illne have no symptoms at all. Infected persons without symptoms may pass the disease on to others.	ess without jaundic	e. Young children fr	equently					
INFORMATION ABOUT IMMUNE GLOBULIN (IG)								
Immune globulin (IG) is a sterile solution that contains antibodies from human blood. It is recomm against hepatitis A. The protection it provides is temporary, lasting for about two to three months.	nended for "passive	" immunization to pr	rotect					
If received within 14 days after exposure to hepatitis A, IG will protect most people from developing	ng the disease.							
There is no evidence that IG can transmit the human immunodeficiency virus or AIDS. IG has not in the United States.	been identified as t	the source of any case	e of AIDS					
Immune globulins are not contraindicated for pregnant women.								
Note: Measles, mumps, rubella (MMR) (live attenuated vaccines) should not be given for at least three (3) months and varicella (chickenpox) vaccine should not be given for at least 5 months after the administration of IG. Also, if it is necessary to administer IG within the 2 weeks follow an MMR vaccine (or within 3 weeks after varicella vaccine), the vaccine should be repeated. The repeat dose of MMR vaccine should not be given sooner than three (3) months after IG. The repeat dose of varicella vaccine should not be given sooner than five (5) months following the administration of IG.								
CONTRAINDICATIONS TO IMMUNE GLOBULIN (IG)								
The following persons should not receive immune globulin: 1. Persons with isolated immunoglobulin A (IgA) deficiency. 2. Persons with severe thrombocytopenia or any blood coagulation disorder which would contraindicate intramuscular injections. 3. Persons who are known to have had an allergic response to thimerosal (a mercury-based preservative). IG without thimerosal is available for use with infants, pregnant women, and those with known allergies to the preservative.								
Caution should be used in giving IG to a patient with a history of adverse reactions to immune glob	oulins.							
IG is not recommended for persons who have clinical symptoms strongly indicative of hepatitis A.	IG is not recommended for persons who have clinical symptoms strongly indicative of hepatitis A.							
I HAVE READ THE INFORMATION ON THIS FORM. I HAVE HAD A CHANG	CE TO ASK QUI	ESTIONS WHICI	H WERE					
ANSWERED TO MY SATISFACTION. CLIENT'S SIGNATURE	WEIGHT	DOSAGE						
PROVIDER SIGNATURE	DATE							

Subsection: Hepatitis A

Sample Letter to Parents of Children Exposed to Hepatitis A at Child Care Center

Page 20 of 23

Revised 6/25/2002

Sample Letter to Parents of Children Exposed to Hepatitis A at Child Care Center

(This may need to be adapted to your specific circumstances)

Dear Parent:
A child who attends thechild care center has been diagnosed as havin hepatitis A.
So that others do not get this illness, the Missouri Department of Health and Senior Service and the County Health Department recommend that (children in the san class as the ill child) (all the children in the center) (all children in the same class as the ill child and their family members) receive an injection of immune globulin (IG). IG will be given free of charge by the County Health Department on(date) at(location)
An "Important Information About Hepatitis A and Immune Globulin" form (attached) mus be completed for each person who is to receive IG. IG will not be given if this is not completed.
A hepatitis A fact sheet is attached.
If ANYONE in your family has recently had symptoms of hepatitis A, please notify theCounty Health Department at(phone) Very often children with hepatitis A are not sick, but are still able to infect their parents and other contacts that may then become ill. This information will be very helpful in stopping the spread of hepatitis A
If you have questions, please contact your physician or the County Health Department.
Sincerely,



MISSOURI DEPARTMENT OF HEALTH BUREAU OF COMMUNICABLE DISEASE CONTROL

DAY CARE ESTABLISHMENT INSPECTION RELATED TO ENTERIC INFECTIONS

(file with patient's record)

FACI	ITY NAM	E	TELEPHONE NUMBER		
ADDF	ESS				
DIRE	CTOR'S	AME PATIENT'S NAME			
YES	NO				
		Are handwashing sinks operational?			
		2. Are handwashing sinks conveniently located (i.e., near food prepar to children)?	ration area, near diaper changing area, accessible		
		. Are adequate supplies of paper towels and soap available in handwashing areas?			
		4. Are surfaces and equipment maintained so they can be adequately cleaned (e.g., disper changing surface, toilet seats, toys)? Are surfaces sanitized with an appropriate product at adequate intervals?			
		5. Are children assisted in toileting and proper handwashing procedures?			
		. Are diaper pails covered and regularly emptied?			
		Are trash cans covered and regularly emptied?			
		3. Is the diaper changing table properly sanitized after each use?			
		Are food handlers' duties limited to handling food?			
	□ 1). Is the diaper changing area located away from the food handling a	area?		
	□ 1	11. Are general sanitation standards met? (Attach copy of inspection report)			
	1	12. Have employees been trained in proper handwashing techniques?			
	□ 1	3. Has information concerning disease prevention in the day care se	tting been provided?		
	□ 1	4. Has management been reminded that state law requires reporting employee or attendee?	of a communicable disease in a day care center		
If	any of	the above questions are answered "no", please follow up to in	sure compliance.		
N5PI	CTOR'S	SIGNATURE.	DATE		



MISSOURI DEPARTMENT OF HEALTH BUREAU OF COMMUNICABLE DISEASE CONTROL

FOOD ESTABLISHMENT INSPECTION RELATED TO FOOD HANDLER WITH HEPATITIS A (FILE WITH PATIENT'S RECORD)

FACILITY NAME					TELEPHONE NUMBER		
ADDR	ESS						
MANAGER'S NAME				PATIENT'S NAME			
VEC	NO						
			Are handwashing sinks operational?				
		2.	Are adequate supplies of soap and paper towels available at the sink?				
		3.	Are surfaces and equipment maintained so they can be adequately cleaned? Are surfaces sanitized with an appropriate product at adequate intervals?				
		4.	Is handling of food minimized?				
		5.	Are general sanitation standards met? (Attach copy of inspection report)				
		6.	. Have you checked for evidence of other cases of illness (time cards/interviews) among the employees?				
		7.	. Have employees been trained in proper handwashing techniques?				
		В.	Has written information about hepatitis A been pro-	vided to the restaurant?			
		9.	. Has the exclusion policy for food handlers with an illness or condition (e.g., diarrhea, boil, infected wound, a cut, respiratory infection, or other disease) that could be transmitted through food been reviewed with the management?				
0		10.	. Has management been instructed that future illnesses in employees should be reported promptly to the county health department? Employees should be educated concerning signs and symptoms and their duty to report this to their manager.				
		11.	Has management and staff been reminded of the co	onfidentiality of an employee's	s illness?		
		12.	. Has management been reminded that state law requires reporting of a communicable disease in a food handler to the health department?				
lf a	any o	of th	ne above questions are answered "no", please fo	ollow up to insure complia	nce.		
INSPE	СТОЯ	'S SI	GNATURE		DATE		



MISSOURI DEPARTMENT OF HEALTH BUREAU OF COMMUNICABLE DISEASE CONTROL

PRECAUTIONS TO PREVENT SPREAD OF HEPATITIS A

(FILE WITH ESTABLISHMENT INSPECTION RECORD)

то	FOOD ESTABLISHMENT OWNER/MANAGER						
			DATE				
SUBJECT	PRECAUTIONS TO PREVENT SPREAD OF HEPATITIS	5 A	1.00000				
An emple	oyee at	at	LOCATION				
		was was	2020/00/				
	en diagnosed with hepatitis A. The onset of illness in this person was and his/her last day						
	ork was; therefore, dates of possible exposure to the public arepare						
to	. You are hereby directed to	by the	Health Department				
	ly with the following requirements in order to interrupt di						
1. Instru	ct all employees to receive Immune Globulin (IG) by	DATE					
sourc	es other than the	Health Departmen	t must provide written documentation.				
Emplo	oyees who do not receive IG will be excluded from work i	n the food establishmer	nt until				
0000000	550 19 su system senso xo vyno sensos	C2/27-C 02/27-04/10	DATE				
This	date may be extended if additional cases of hepatitis A oc	cur in this establishmer	it.				
2. Accor	mplish a thorough cleaning of the establishment (i.e., was	sh/rinse/sanitize work s	urfaces, walls and floors).				
3. Instru	ect all employees to maintain good personal hygiene incli	uding strict handwashin	g practices.				
4. Disca	ard all foods handled by the ill employee.						
5. Requi	ire the hepatitis A positive employee to remain off wor	k at least seven (7) day	s past onset of jaundice (yellow skin				
or ey	es). If the employee was positive for hepatitis A but did not have jaundice, he/she should remain off work at least						
14 da	ys after onset of symptoms (nausea, vomiting, diarrhea, a	abdominal discomfort, fo	ever, dark urine).				
6. Exclude from work any sick employee (i.e., anyone who reports an upset stomach, fever, loss of appetite, vomiting, dis							
abdor	minal discomfort, dark urine, or yellow apearing skin	or eyes), refer him/her	to a physician for examination, and				
notify	the Health Departr	ment.					
7. Notify	y the Health Depa	artment of future suspec	et or diagnosed cases.				
SIGNATURE		HEALTH DEPARTMENT					
ADDRESS			TELEPHONE NUMBER				